

REMARKS

In the Office Action, claims 1-26 were rejected. By this Reply and Amendment, claims 1, 7 and 12 have been amended, claims 4-6 and 8-11 have been canceled without prejudice, and claims 1-3, 7 and 12-26 remain pending in the present application. All claim amendments are fully supported throughout the written description and figures of the specification.

Claims 12-17 were objected to, because independent claim 12 sequentially repeated the term "the" in line 5. Accordingly, claim 12 has been amended to remove one of the repetitive terms and the objection is believed to be overcome.

Claims 1 and 4-26 were rejected under 35 USC 102(b) as anticipated by the Coronado reference, US Patent No.: 6,223,821 or the Plumb et al. reference, US Patent No.: 5,517,854. At least certain aspects of this rejection are traversed, however independent claim 1 has been amended to clarify certain aspects of the claim language and to facilitate allowance of the present application.

The Coronado reference describes an inflation verification system for an inflatable tool. A sensor 14 or other type of information collector is employed within or adjacent an opening that allows fluid to enter the inflatable tool. The sensor may be a pressure sensor disposed adjacent the packer and preprogrammed to include a threshold differential pressure between the annulus and the inflatable tool. When the threshold is met, the sensor provides an electrical signal to a downhole controller 16 which activates a communicator 18. The reference also describes another type of information collector as a fluid displacement device located at an entrance to the inflatable portion of the inflatable tool. The device is able to measure the amount of fluid flowing past. In another embodiment, the sensor 14 may comprise one or more strain gauges. (See column 3, lines 25-58).

Furthermore, it was stated in the Office Action that "the reference teaches the limitations as claimed, including a pressure gauge, a setting chamber (112, 130, 140, 142), a second sensor (column 4, lines 45-53)" and therefore teaches elements of the independent claims. With respect

to the dependent claims, the Office Action simply stated "the reference teaches the limitations as claimed." (See Office Action, page 3, last sentence). However, the description of these various elements is believed to relate to communicator 18 which is described in detail beginning at column 3, line 59, of the Coronado reference. The description is continued at column 4, line 58 forward, where a communication method is described in which communicator 18 is an electromagnetic pulse generator. The reference states that in "a particular embodiment of the negative pulse method and apparatus of the invention, referring to FIGS. 2-19,..." and then continues by describing as part of this embodiment the elements cited by the Examiner. Accordingly, the Coronado reference does not appear to disclose or suggest the subject matter of the presently pending independent claims which are related to a packer and sensor system able to sense and verify proper inflation of the packer.

The Plumb et al. reference describes a modular sonde conveyed downhole on an electric wireline with a variety of instruments for testing various well related parameters. One of the features of the modular sonde is an inflatable packer module 302, 312 that includes a pressure sensor 344 for detecting packer inflation pressure. However, the modular sonde also includes an orienting module 304 and a stress/rheology module 300 having a probe module 306. (See column 9, lines 17-24). These various other modules comprise a variety of sensors for testing the various downhole parameters. For example, sensors 316 and 318 measure changes in borehole diameter in one direction. (Column 9, lines 2-3). Additionally, probe module 306 includes a flowline resistivity sensor 328, a flowline pressure sensor 330 and controllable flow valves 332 and 348. (See column 9, lines 37-40). Several of these features were cited and relied on in the Office Action as disclosing the content of the subject claims. However, the cited Plumb et al. features relate to various measurement systems of the modular sonde and do not disclose or suggest the subject matter of the presently pending independent claims which are related to a packer and sensor system that is able to sense and verify proper inflation of the packer.

Accordingly, the Coronado and Plumb et al. references fail to disclose or suggest various features of the pending independent claims. Specific examples of elements not disclosed or

suggested by the cited references are provided for each of the rejected independent claims as follows:

Claim 1: a packer comprising a "pressure sensor positioned therein" combined with a "second pressure sensor, wherein outputs of the pressure sensor and the second pressure sensor are compared to determine whether sufficient fluid is reaching the packer";

Claim 12: a packer having a setting chamber with a pressure gauge to measure pressure within the setting chamber combined with "a pressure sensor to measure a pressure of the hydraulic fluid, supplied by the remote source, at a location remote from the setting chamber, wherein the pressure within the setting chamber is compared with the pressure at the location remote from the setting chamber to determine whether the hydraulic fluid is reaching the setting chamber";

Claim 18: a gauge communicating with an interior cavity of the packer and "a redundant gauge to verify measurements of the gauge by sensing the same well characteristic at a location spaced from a measurement location of the gauge"; and

Claim 23: positioning a plurality of gauges within a packer, measuring well characteristics at different positions, and "verifying at least one measured well characteristic by sensing the same measured well characteristic at a spaced measurement location".

Claims 7, 13-17, 19-22, and 24-26 ultimately depend from one of the independent claims discussed above and are patentable for the reasons provided above with respect to the independent claims as well as for the unique subject matter found in these dependent claims. Accordingly, claims 1, 4-26 are patentably distinguishable over the cited references.

Claims 1 and 4-26 were rejected under 35 USC 102(b) as anticipated by the McCabe et al. reference, US Patent No.: 6,135,204, or the Schroeder et al. reference, WO2004/029411. At least certain aspects of this rejection are traversed, however independent claim 1 has been amended to clarify certain aspects of the claim language and to facilitate allowance of the present application.

The McCabe et al. reference relates to a method for placing sensors/probes in direct contact with surrounding strata in a bore hole. Sensors 30 and 32 are attached to opposite sides of an isolation packer 28 to provide monitoring data at various depths. (See column 5, lines 8-17). The sensors 30 and 32 can be taped, glued or tied to the packer to keep them in position long enough to lower them to a desire bore hole position and to fill the isolation packer 28 with grout 24. This can maintain the sensors 30 and 32 in contact with the walls of the bore hole for years or even decades. (See column 8, lines 9-16).

The Schroeder et al. reference, on the other hand, describes a technique for isolating wellbore regions in which certain parameters are sensed in association with the production or injection of desired fluids. As illustrated and described with respect to Figures 5-7 of the reference, a sensor 66 can be a fiber sensor 78 disposed within a tube 34 that extends through a packer or instrumented sub 70. The sensor 66 may be used to determine external pressure and to provide appropriate output along a communication line 36.

However, each of these references fails to disclose or suggest various elements of amended, independent claim 1. By way of specific example, each reference fails to disclose or suggest a packer comprising a "pressure sensor positioned therein" combined with a "second pressure sensor, wherein outputs of the pressure sensor and the second pressure sensor are compared to determine whether sufficient fluid is reaching the packer" as currently recited in claim 1. Accordingly, independent claim 1 is patentable over the cited references. Claims 5-6 and 9-11 have been canceled without prejudice, and the rejection is no longer applicable.

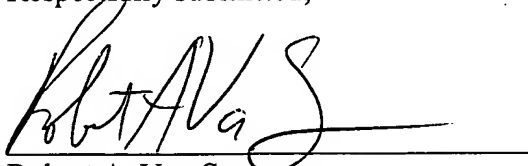
Claim 2 was rejected under 35 USC 103(a) as unpatentable over the US'821, US'854, US'204, or WO'411 references in view of the US2004/0083805, US2004/0069487 or US6577954

references. Claim 2 ultimately depends from independent claim 1 and is patentable for the reasons provided above with respect to independent claim 1 as well as for the unique subject matter added by this dependent claim. The additional cited references provide no further disclosure that would establish a prima facie case of obviousness with respect to dependent claim 2.

Claim 3 was rejected under 35 USC 103(a) as unpatentable over the US'821, US'854, US'204, or WO'411 references in view of the US2002/0163639 reference. Claim 3 ultimately depends from independent claim 1 and is patentable for the reasons provided above with respect to independent claim 1 as well as for the unique subject matter added by this dependent claim. The additional cited references provide no further disclosure that would establish a prima facie case of obviousness with respect to dependent claim 3.

In view of the foregoing remarks, all pending claims are believed patentable over the cited references. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert A. Van Someren', is written over a horizontal line.

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